A new approach to reviewing & improving effective management of medicines:
Country situational analyses in SEAR

Kathleen Holloway
Regional Advisor in Essential Drugs and Other Medicines, WHO/SEARO

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Need for a national coordinated health systems approach to Effective Management of Medicines

• Monitoring medicines mgt. minimal, falling between different bodies:
  – Medicines availability, use & policy implementation often suboptimal

• WHO monitoring
  – Drug use database (from published articles), country pharma profiles (from MOH questionnaires) – not enough for country policy action

• WHA resolutions WHAs 58.27, 60.16, 67.25:
  – National programs needed to monitor & improve use & contain AMR

• RC resolutions:
  – SEA/RC55/R4 & SEA/RC62/R6 call for measures to improve access to essential medicines & to strengthen drug regulatory authorities
  – SEA/RC64/R5 and SEA/RC66/R7 call for monitoring use & request country situational analysis to be done 4-yearly to identify a country-contextualized roadmap for action and monitor progress
Situational analyses in S. E. Asia:
New rapid appraisal method over 2 weeks

- Negotiated with MOH & WHO Country Office about objectives & visit
- Uses a workbook tool developed in WHO/HQ & adapted by SEARO
- Work with a government team comprising at least one staff from supply, regulation, health services and selection/use (pharmacologist)
- Visit major MOH departments & agencies responsible for drug supply, selection, regulation, insurance, academia, professional bodies
- Visit at least 1 of each type of public facility (district, 2º, 3º hospitals, PHCs) & 2 private pharmacies in 2 provinces/regions): 12 -16 facilities
  - Enough facilities to identify problems, not get generalizable data
- Conduct a 1-day workshop with national stakeholders to validate findings & develop recommendations for a roadmap for future action
- Publish a report on-line for use by MOH/partners in future planning
- Costs approx. USD 20,000 per country including consultant fee
Data collected – not available elsewhere

Used for: identifying problems, monitoring progress, institutional memory, advocacy, reality check.

• Drug supply - in public facilities & private shops
  – Availability of ~30 key essential drugs, stock-out, expiry, price data, storage conditions, procurement/distribution and LMIS systems

• Drug Selection – compliance with EML
  – OPD Px survey (30/facility) & national/district consumption data

• Drug use
  – OPD Px survey (INRUD indicators & % URTI cases treated with ABs)

• Drug Regulation
  – Number of registered products, drug outlets, staff, samples tested (with sampling & failure rate), ADRs, inspections, prosecutions, SOPs

• Drug Policies
  – Policies in place and implementation
Situational analysis in Bangladesh, Sept. 2014: Getting started

Briefing the government team

Team talking to Dept. Health Services
Talking to stakeholders

National Regulatory Authority

Professional body

Academia

Central Medical Supplies Depot
Collecting data on medicines use

OPD prescribing survey

Private pharmacy drug use survey

Inpatient ward & dispensing register
Collecting data on store management
On the road in Bhutan, July 2015
Situational analysis: national workshop

1. Preparation with the team

2. Presenting the findings

3. Group work & development of recommendations
Writing the report

- Based on workbook tool
- Info systematically recorded
- Five sections
  - Medicines supply
  - Medicines selection
  - Medicines use
  - Medicines regulation
  - Medicines policy
- Recommendations
- Agreed with government
- Put on the web
Situational analyses - some results:

Amazing achievements considering the low investment

• Common findings
  – Drug supply systems under-resourced & mostly manual
  – Irrational use of medicines & little monitoring
  – Drug regulation under-resourced & SOPs often not followed
  – Drug policies poorly implemented, falling between different bodies & sometimes conflicting with each other
  – All stakeholders had knowledge gaps on how medicines are managed & some were fearful to share info for fear of blame

• Common recommendations
  – Establish electronic LMIS & analyze data for better stock mgt.
  – Invest in NRAs to ensure adequate human & financial resources
  – Establish a high-level coordinating mechanism for policy discussion & an MOH unit to monitor drug use & coordinate policy implementation
## Drug availability in public sector: - S. E. Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>% Avail Key Ess. drugs</th>
<th>% drug stock-out</th>
<th>Av. no. drugs / patient</th>
<th>% prescr.ibed drugs dispensed</th>
<th>% prescr. ibed drugs on EML</th>
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</thead>
<tbody>
<tr>
<td>Bangladesh 2014</td>
<td>61-100</td>
<td>9-52</td>
<td>1.8-2.3</td>
<td>65-96</td>
<td>49-96**</td>
</tr>
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<td>Bhutan 2015</td>
<td>94-98</td>
<td>2-5</td>
<td>1.9-2.8</td>
<td>96-100</td>
<td>96-100</td>
</tr>
<tr>
<td>DPR Korea 2012</td>
<td>“short”</td>
<td>-</td>
<td>1.3-2.6</td>
<td>-</td>
<td>-**</td>
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<tr>
<td>Rajasthan 2013</td>
<td>61-75*</td>
<td>“&lt;1/day”</td>
<td>3.3-4.1</td>
<td>92-100</td>
<td>92-100</td>
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<tr>
<td>Karnataka 2013</td>
<td>89</td>
<td>24</td>
<td>3.2-3.6</td>
<td>92-100</td>
<td>98-100</td>
</tr>
<tr>
<td>Indonesia 2011</td>
<td>88-95*</td>
<td>-</td>
<td>2.6-3.3</td>
<td>91-99</td>
<td>45-91</td>
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<tr>
<td>Maldives 2014</td>
<td>-</td>
<td>6-21</td>
<td>3.0-3.4</td>
<td>87-90</td>
<td>70-76</td>
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<td>Myanmar 2014</td>
<td>59-80</td>
<td>18-24</td>
<td>2.2-3.3</td>
<td>96 (1 hos)</td>
<td>74-89</td>
</tr>
<tr>
<td>Nepal 2014</td>
<td>60-90</td>
<td>18-22</td>
<td>2.3-2.8</td>
<td>78-93</td>
<td>33-94</td>
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<tr>
<td>Sri Lanka 2015</td>
<td>72-79</td>
<td>3-7</td>
<td>2.8-3.6</td>
<td>92-99</td>
<td>90-95</td>
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<tr>
<td>Thailand 2012</td>
<td>-</td>
<td>-</td>
<td>2.7-4.1</td>
<td>-</td>
<td>78-84</td>
</tr>
<tr>
<td>Timor-Leste 2015</td>
<td>54-77</td>
<td>9-41</td>
<td>2.3-2.6</td>
<td>94-99</td>
<td>89-96</td>
</tr>
</tbody>
</table>

* Data from MOH; ** EML >5 years old
## Public PHC antibiotic use & stewardship – S.E. Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>% OPD given AB</th>
<th>% URTI given AB</th>
<th>Nat AMR strategy</th>
<th>DTCs most hos.</th>
<th>ABs OTC</th>
<th>Pub educ. on ABs in last 2 yrs</th>
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<tbody>
<tr>
<td>Bangladesh 2014</td>
<td>19-54</td>
<td>59-60</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Bhutan 2015</td>
<td>33-49</td>
<td>26-42</td>
<td>No</td>
<td>Rf hos</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>DPR Korea 2012</td>
<td>18-51</td>
<td>58-81</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Not on AB</td>
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<tr>
<td>Rajasthan 2013</td>
<td>53-67</td>
<td>81-100</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
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<td>Karnataka 2013</td>
<td>23-45</td>
<td>67-78</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<td>Indonesia 2011</td>
<td>34-55</td>
<td>72</td>
<td>2011</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Maldives 2014</td>
<td>15-34</td>
<td>33-48</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<td>Myanmar 2014</td>
<td>34-53</td>
<td>73-96</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Nepal 2014</td>
<td>40-48</td>
<td>63-71</td>
<td>2001</td>
<td>Rf hos</td>
<td>Yes</td>
<td>No</td>
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<td>Sri Lanka 2015</td>
<td>45-67</td>
<td>47-85</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Not on AB</td>
</tr>
<tr>
<td>Thailand 2012</td>
<td>23-45</td>
<td>54-62</td>
<td>2011</td>
<td>Yes</td>
<td>Yes</td>
<td>Not on AB</td>
</tr>
<tr>
<td>Timor-Lest 2015</td>
<td>33-50</td>
<td>46-66</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Country</td>
<td>Population (million)</td>
<td>No. outlets</td>
<td>No. products</td>
<td>No. DRA posts</td>
<td>No. ADR last yr</td>
<td>No. sample tested last yr. (% failure)</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------</td>
<td>-------------</td>
<td>--------------</td>
<td>---------------</td>
<td>----------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Bangladesh 2014</td>
<td>152.50</td>
<td>113,269</td>
<td>31,955</td>
<td>143</td>
<td>?</td>
<td>5457 (3%)</td>
</tr>
<tr>
<td>Bhutan 2015</td>
<td>0.74</td>
<td>63</td>
<td>1,051</td>
<td>16</td>
<td>25</td>
<td>70 (6%)</td>
</tr>
<tr>
<td>DPR Korea 2012</td>
<td>24.80</td>
<td>260</td>
<td>3,500</td>
<td>713</td>
<td>0</td>
<td>3400 (3%)</td>
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<tr>
<td>Rajasthan 2013</td>
<td>68.60</td>
<td>24,845</td>
<td>~75,000</td>
<td>152</td>
<td>~227</td>
<td>?</td>
</tr>
<tr>
<td>Karnataka 2013</td>
<td>61.10</td>
<td>22,000</td>
<td>~75,000</td>
<td>709</td>
<td>~1611</td>
<td>6335 (5%)</td>
</tr>
<tr>
<td>Indonesia 2011</td>
<td>242.30</td>
<td>23,158</td>
<td>15,072</td>
<td>3,780</td>
<td>369</td>
<td>~18513 (1%)</td>
</tr>
<tr>
<td>Maldives 2014</td>
<td>0.33</td>
<td>189</td>
<td>2,863</td>
<td>15</td>
<td>1</td>
<td>46 (0%)</td>
</tr>
<tr>
<td>Myanmar 2014</td>
<td>48.30</td>
<td>10,180</td>
<td>17,000</td>
<td>86</td>
<td>0</td>
<td>1000 (4%)</td>
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<tr>
<td>Nepal 2014</td>
<td>26.50</td>
<td>19,677</td>
<td>15,247</td>
<td>49</td>
<td>24</td>
<td>687 (14%)</td>
</tr>
<tr>
<td>Sri Lanka 2015</td>
<td>20.90</td>
<td>4,983</td>
<td>8,095</td>
<td>25</td>
<td>250</td>
<td>800 (30%)</td>
</tr>
<tr>
<td>Thailand 2012</td>
<td>69.50</td>
<td>17,424</td>
<td>30,000</td>
<td>96</td>
<td>60,000</td>
<td>2500 (10%)</td>
</tr>
<tr>
<td>Timor-Leste 2015</td>
<td>1.20</td>
<td>25</td>
<td>?</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Public sector health worker views

Nepal Auxiliary Health Worker (1 year trained paramedic in HP)
• “For children under 5 years with pneumonia I must give amoxy syrup according to IMCI guidelines. Since we are short of amoxy syrup & have short-dated chloramphenicol syrup, I am prescribing it to children of more than 5 years with pneumonia in order to use up the stock.”

Nepal Peon (untrained asst. in sub-HP)
• “When doctor saab is not here I do dressings and give out cetamol. For young children I give cotrim.”

Timor-Leste Hospital Senior Doctor
• “The Standard Treatment Guidelines marked for referral hospitals are not appropriate because the medicines are too simple.”

Timor-Leste Hospital Pharmacy technician
• “Monitoring expired drugs on the ward is not my job, it is the nurses’ job.”
Clarifying & solving complex problems

• **Bhutan – stock-out due to simultaneous policy changes**
  – Regulation on non-importation of unregistered drugs enforced,
  – Anti-corruption Task Force, Audit Commission, & Min. of Finance misunderstanding about higher prices for better supplier criteria
  – Trying to encourage local wholesalers by giving 3-year tenders and higher punitive rates for defaulting
  – For some products: no bids, no supplier & stock-out
  – Resolved after policy changes - after sit. analysis & 2^{nd} policy meeting

• **Sri Lanka stock-out due to quality problems**
  – NRA registration process weak - few qual. staff, not following SOP
  – registration with the NRA is the only quality criteria in govt. purchase
  – 800 samples tested last year with 30% failure rate leading to withdrawal of 12 products & stock-out
Learning about medicines in health care delivery together

Private retail shops  Public sector health facilities

Major outcome: less fear, more openness to sharing info & acting on it
Country situational analyses: summary

- 2-week rapid “diagnostic” appraisal of medicine management
  - Developed during a 1st round in all 11 countries during 2010-13
  - Approach revised during a 2nd round in 8-9 countries during 2014-15
- Mandated by RC resolutions 2011 & 2013
- Done by government team using workbook/survey tools
- Requires external facilitator with good knowledge/overview
  - Training team of regional facilitators, but facilitator guide needed
- Accurate data collected quickly – but requires supervision
- Facilitates a coordinated, holistic, learning approach, & cheap
- Future: analyse & publish SEAR findings & progress, discuss progress in Regional Consultation 2017, roll-out to other regions?